

BIENNIAL REPORT

OF THE

BOARD OF

GAME COMMISSIONERS

OF THE

COMMONWEALTH OF PENNSYLVANIA

FOR THE

1929-1930

BIENNIUM

HARRISBURG, PENNA.

1930



GAME REFUGE KEEPERS IN NEW UNIFORM RECENTLY ADOPTED TO AID IN LAW ENFORCEMENT ACTIVITIES. GAME PROTECTORS ARE ALSO EQUIPPED WITH UNIFORMS

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BIENNIAL REPORT OF THE BOARD OF GAME COMMISSIONERS

Harrisburg, Pennsylvania

June 1st, 1930

TO HIS EXCELLENCY, JOHN S. FISHER

Governor of Pennsylvania

Sir:

Complying with the Acts of the General Assembly, the Board of Game Commissioners submit herewith their biennial report for the period ending May 31st, 1930. There is also attached a report of the Executive Secretary to the Board. This report outlines the accomplishments of the Board in detail and includes statistics and financial statements that are of interest.

The membership of the Board, with one exception, remained as at the close of the previous biennium. Dr. H. J. Donaldson, Williamsport, Pa., a member of the Board from December 1916 to August 1929, the date of his resignation, was succeeded by J. Aug. Beck of Williamsport, Pa.

FINANCES

The balance in the Game Fund at the beginning of the biennium amounted to \$574,460.91 and total receipts during the biennium amounted to \$2,228,459.07. Our expenditures for all purposes was \$2,194,048.21 leaving a balance as of May 31st, 1930, of \$608,871.77.

Under present laws there are fixed obligations for which certain funds must be set aside. These include the payment of damages caused by bear to the extent of \$3,000.00 per annum; cooperation with orchardists, truckers, etc., in the construction of deer-proof fences, amounting to \$10,000.00 per annum, and \$100,000.00 per year, or so much thereof as can be used judiciously, for the purchase, propagation and feed for game. In the first two instances we have kept within the specified amounts. However, believing one of the most important features of our work is to supply game for the sportsmen, we have exceeded the requirements of the third provision and expended during the biennium \$176,089.46 for the purchase of game alone. In addition to this amount, we expended \$38,313.94 for feed for game and \$79,887.45 for the propagation of game.

In compliance with the law, we have set aside \$.75 out of each resident hunter's license fee for the purchase and maintenance of game refuges and public hunting grounds. In preparing our yearly budgets we have provided not less than \$200,000.00 per year for the purchase of lands. The unexpended balance in this account has always been carried over to the following year to be used for the same purpose. The balance of the revenue received from this increase in license fees is expended for the maintenance of lands already purchased.

LEGISLATION

The 1929 Legislature created the Department of Revenue and provided among other things that all fees for both resident and non-resident licenses should be collected by that Department. Due to the inability of the Revenue Department to function in time for the issuance of the above licenses in 1929, the Commission proceeded in the usual manner. However, the Revenue Department has not assumed its duties in this matter. All revenue derived from the sale of hunting licenses will be deposited with the State Treasurer to the credit of the Game Fund.

Changing conditions in game conservation matters have, of course, compelled the Legislature to amend certain sections of the Game Code since its approval May 24th, 1923. During the last session of the Legislature few changes were made. In fact the Commission did not sponsor any legislation, and the changes made were the result of demands on the part of sportsmen's organizations.

GAME CONDITIONS

Pennsylvania is credited as being the only State in the Union providing a combination of elk, deer, bear and turkey shooting. These various species, often referred to as large game, provide the large game hunter with a variety of sport. The 1929 season on deer saw the kill of legal bucks amount to 22,822, far exceeding the kill of these animals for any previous period in the history of the Commonwealth. Showing an increase of 8,448 legal bucks over the kill during the season of 1927, we believe the trophies secured far surpassed those secured previously in the uniformly large spread of antlers, and after all it is the trophy and the excitement of the chase, rather than the meat, that is desired by the Pennsylvania sportsman. The remarkable results of the 1929 deer season were undoubtedly due to the special deer season of 1928, when antlerless deer only could be legally killed. While this special deer season resulted in several thousand old does being taken out of the State's deer section, we find it will be necessary, from time to time, to open certain sections of the State to the killing of antlerless deer to keep our stock of deer up to a high standard of type and keep them

from degenerating, and we feel the average sportsman has become reconciled to this fact.

In an effort to better conserve our ruffed grouse the Board closed the season during 1929. Reports from our field representatives indicated that although the 1929 breeding season was favorable the birds were not found in satisfactory numbers. The 1930 breeding season was also favorable for grouse and their increase is very satisfactory, as well as other game birds, and the Board has specified a short shooting season with a limited bag in 1930.

Perhaps at no time in our history were natural food conditions for game so critical as during the winter of 1929-30, which made it necessary for our organization to put forth strenuous effort in the feeding of game during those months, at an expense greater than ever before. In this work we were ably assisted by sportsmen, boy scouts, farmers and interested individuals.

PROPAGATION OF GAME

It is felt that the supply of game will never be sufficient to meet the demand. The better the game conditions, the more sportsmen go afield to hunt. This holds good not only in Pennsylvania but in all the states, and the competition between the states to purchase the commercially raised game has become so great that the prices have become almost prohibitive.

During the biennium the Board established three State Game Farms, and although these farms are still in a state of construction, the results show that the State can produce certain species of game at a much lower price than they can be purchased in the open market. Two of these farms, the John S. Fisher State Game Farm, located near Schwenksville, Montgomery County, and the Charles G. Jordan State Game Farm situated near New Castle, Lawrence County, are devoted to the propagation of ringnecked pheasants, and the distribution of ringnecked pheasant eggs to those sportsmen's clubs and citizens sufficiently interested in the propagation of these birds. The third game farm is located in Juniata County, in the heart of the State's wild turkey section, where wild turkeys only will be raised for distribution.

In addition to these established State Game Farms, propagation of the ringnecked pheasant has been carried on at thirty-one (31) of our Primary State Game Refuges by the Refuge Keepers as part of their regular work, from eggs furnished by our Game Farms, with encouraging results.

PURCHASE OF GAME

During the season of 1928-29 we were successful in importing 4,966 hungarian partridges, more than we were ever able to purchase before,

but the following season we decided to discontinue the stocking of these birds until some definite data can be secured in order to determine whether they will be a success in Pennsylvania.

While we had orders placed for 12,500 bob-white quail, our shippers could furnish only 5,500 the spring of 1929. However, we were successful in receiving 11,207 bob-white quail on orders for 15,000 the following spring. There were also purchased during the biennium 98,994 cotton-tail rabbits, 452 wild turkeys, several thousand ring-necked pheasants and a limited number of raccoons and fox squirrels.

LAND PURCHASES

While we receive many offers of land, the price asked for the majority of such land makes the purchase prohibitive. During the biennium we expended \$425,713.96 for the acquisition of 87,900.63 acres, this amount including fees for title examinations and cost of surveys.

Just before the close of the biennium the Game Commission and the Department of Forests and Waters jointly contracted for the purchase of approximately 133,190 acres of Central Pennsylvania Lumber Company lands. Of this amount the Game Commission agreed to purchase 51,845 acres located in Bradford, Wyoming, Sullivan, Potter, McKean and Elk Counties. This brought the total of lands under contract for purchase by the Game Commission June 1, 1930 to 111,377 acres, making a total of 199,277.63 acres bought and paid for and under contract during the biennium.

CONTROL OF PREDATORS

On authority of the Executive Board the name of our Bureau of Vermin Control was changed to Bureau of Predatory Animals to conform with the term now applied to noxious animals and birds.

Increased activity on the part of trappers in the State is evident from the number of bounty claims received during the biennium. During the fiscal year 1929-30 the number of claims received surpassed the number received during any previous year, although the total amount paid on these claims was not correspondingly high, due to previous reductions in bounty on the killing of weasels and the elimination of the bounty on red foxes. The Legislature in 1929 provided a bounty of five dollars on each goshawk killed between the first day of November and the first day of May next following. Seventy-six of these "killers" were presented for bounty during the first season this provision was operative.

HUNTING ACCIDENTS

Carelessness on the part of those handling firearms was again responsible for a large number of hunting accidents, the majority of which

would never have happened had the participants exercised reasonable care and good judgment.

During the hunting season of 1928 there was a total of 283 accidents, 45 of which were fatal and 238 non-fatal. Thirty-two percent of the total were self-inflicted and sixty-eight percent caused by others. However, the majority of the fatal accidents were self-inflicted. There was but one fatal accident during the special deer season. The number of accidents increased during 1929 to a total of 332, of which 109 were self-inflicted and 223 the result of carelessness on the part of others. There were 56 fatal accidents, and again the majority of such accidents were self-inflicted, there being 32 such cases.

While these figures at first glance are rather appalling, we must consider the fact that there are over one half million licensed hunters in Pennsylvania each year, many of them going afield for the first time. The Board has prepared motion pictures, which have been shown throughout the State, showing how easily accidents may happen, and at the same time these reels depict the proper handling and care of firearms. Our efforts to reduce or keep under control such lamentable accidents will be continued.

PERSONNEL

The personnel of the Game Commission continues to be of the highest standard, the Board adhering to the practice of filling all field positions through competitive examination.

Due to the necessity of increasing our activities and services, there has been a small increase in the number of employees during the biennium, but such additions to our personnel were made only when it was found to be absolutely necessary.

The advisability of uniforming our field officers had been considered for some time and after careful study of the subject the Board authorized such action. Our officers were uniformed the latter part of 1929, the Board purchasing the uniform, service hat and reefer. The officers purchased the balance of their equipment, including Sam Browne Belt, puttees, foot wear and sidearm. Much favorable comment has been made on this action and we feel it has tremendously aided our work.

THE OUTLOOK

When the movement to create the Board of Game Commissioners was first started, back in the nineteenth century, surely no one could have foreseen its tremendous possibilities. New ideas in game conservation are developing rapidly and no one today is able to foretell just what the next few years will develop. The protection of the inherent right of our citizens to enjoy a favorite sport is paramount and the State must always be the guarantor of that right.

Many noted conservationists are of the opinion America is selling its hunting privilege too cheaply, and while we do not favor an increase in hunting license fees at this time, such increase must come if those in charge of conservation matters are to increase their activities and keep in step with the enormous demands made upon them to furnish and protect wild birds and animals in this great Commonwealth for the sportsmen.

Respectfully submitted,

ROSS L. LEFFLER,

President

JARED M. B. REIS,

Vice President

ADOLF MÜLLER

FRANCIS H. COFFIN

FRANKLIN G. MCINTOSH

RICHARD E. REITZ

HARRY C. STACKPOLE

J. AUG. BECK

Attest:

JNO. J. SLAUTTERBACK,

Executive Secretary.

REPORT OF THE EXECUTIVE SECRETARY

MEMBERS OF THE BOARD OF GAME COMMISSIONERS,
COMMONWEALTH OF PENNSYLVANIA,
HARRISBURG, PENNSYLVANIA.

Gentlemen:

I beg to submit the following report, covering in order the various activities directed by the Board of Game Commissioners during the past biennium.

Reports are included, in more or less detail, that, by the publication and distribution of this report, this information may be available to all citizens of the Commonwealth.

During the biennium individual members of the Board have been—if possible—even more generous in time and effort given to the work, and sportsmen are ever better served and better satisfied because of an increasing realization of this effort of every member of the Board in serving their interests.

Our citizens in general, and the sportsmen's organizations especially, have shown a continually increasing interest in and understanding of the many practical problems we face in the propagation and conservation of the various species of game animals and birds native to or in-

troduced into the Commonwealth. A change of sentiment as to our attempts to remedy the deer situation has been especially noticeable.

As our program develops further and further each year, the necessary administrative duties inevitably greatly increase if we are to keep pace at all. But this situation has been met more by increased effort and output by each member of the force than by additions to the personnel.

LEGISLATION

1. The Game Code passed by the General Assembly in 1923 and slightly amended during the sessions of 1925 and 1927 was again slightly amended during the session of 1929. Sec. 411A was added to our Code providing for a license to raise fur-bearing animals, thereby giving the legitimate fur farmer additional protection and the Board authority to control the unscrupulous fur farms.
2. An amendment to Sec. 718 provides that field trials may be held, under certain restrictions, on led game animals during the period when dogs cannot be trained on game. Field trials for bird dogs may also be held under permit during the regular training season and the month of March.
3. The opening of the season for the taking of muskrats was changed from November 1 to December 1 and that of raccoon from October 1 to November 1, thereby affording more protection for these fur-bearing animals.
4. The red fox was removed from the list of animals on which bounty is paid and a bounty of \$5.00 each placed on goshawks killed between November 1 and May 1.
5. Protection and control by the Commonwealth of certain species of wild waterfowl was provided by an amendment to Sec. 101.
6. Game lawfully killed was made subject to larceny by an amendment to Article XI of the Code.
7. The use of the bow and arrow in taking game was legalized by amending Sec. 703.
8. Amendments of the Hunter's License Act to conform with the Fiscal Code provide that all resident and non-resident licenses be issued by the Department of Revenue.
9. Three classes of fur dealer's licenses were provided: a \$5.00 license permitting the purchase and resale of raw furs within the State only, a \$10.00 license permitting the purchase and resale either within or without the State, and a non-resident fur dealer's license having a fee of \$50.00.
10. A penalty of \$500.00 is now provided only for the killing of elk, deer and bear through the use of artificial light or vehicle.

LAW OBSERVANCE

During the biennium there were 6,210 prosecutions brought by officers of the Game Commission and others authorized to enforce the Game Law. This is a substantial increase over the number brought during the previous biennium, in which there were 4,862 prosecutions. The increase of 1,348 cases indicates that our officers have been more active in enforcement work and have had splendid cooperation on the part of deputy game protectors and interested sportsmen. Game Protectors also assisted in enforcing the Fish Law as our records indicate that 470 fish prosecutions were brought by Game Protectors.

Penalties collected for Game Law violations have steadily increased during the past four years, as indicated by the following figures:

Penalties collected in fiscal year 1926-27	\$59,705.00
Penalties collected in fiscal year 1927-28	62,680.00
Penalties collected in fiscal year 1928-29	65,642.50
Penalties collected in fiscal year 1929-30	82,871.50

During the biennium the Game Fund received \$148,514.00 from penalties collected for violations of the Game Law, whereas during the previous biennium the total penalties amounted to \$122,385.00, showing an increase in the past two years of \$26,129.00. During the year ending May 31, 1930, \$17,229.00 more was collected in game penalties than during the previous year.

While the payment of penalties for game law violations inflicts punishment upon the offender, it has been our experience that by the revocation of hunting licenses for major violations a still greater penalty is paid and one which is much more dreaded by the hunter. During the biennium the Board revoked the licenses of 386 hunters for having violated our law, 187 of which were revoked in 1928, and 199 in 1929. In several districts of the State, denying violators the right to hunt has had a very favorable effect in preventing violations.

During the past two years our officers brought 6,210 prosecutions, as follows:

Illegal deer cases	892
Killing game in close season	1,046
Dogs chasing game unlawfully	579
Aliens possessing firearms	247
Aliens possessing dogs	329
Fish cases	470
Unlicensed dog cases	237
Miscellaneous cases (including hunting without license, unlawful trapping, killing protected birds, etc.)	2,410
Total	6,210

In the enforcement of the Game Code field officers have no thought

of persecuting anyone, but intend to prosecute only wilful, deliberate and inexcusable violators.

Our efforts toward the feeding of game during the winter have been gradually gaining the cooperation of many sportsmen, scout organizations, farmers and rural mail carriers. During the winter of 1929-30 natural food conditions were bad and special efforts were made to feed the wild life. The results have been very gratifying, and we are sure those assisting us in this work have likewise found a great deal of pleasure from participating in this worthy task. The following table gives the cost of feed, with an estimate of the game fed for the bien-nium. It must of course be realized that many individuals assisting did not report their activities, and furnished feed with no thought of recompense.



GAME PROTECTOR INSTRUCTING BOY SCOUTS HOW TO PLACE FOOD FOR GAME

GAME FEEDING

June 1, 1928 to May 31, 1930

<i>Kind of Game</i>	<i>Fiscal Year 1928-29</i>		<i>Fiscal Year 1929-30</i>	
	<i>No. Fed</i>	<i>Cost of Feed</i>	<i>No. Fed</i>	<i>Cost of Feed</i>
Quail, Bob-White	49,323	\$3,702.10	83,096	\$4,194.45
Hungarian Partridges	1,503	164.83	3,776	301.28
Ring-necked Pheasants	34,141	3,460.72	40,113	3,230.94
Wild Turkeys	3,718	3,086.94	4,814	4,048.37
Ruffed Grouse	5,390	1,066.82	8,076	1,195.72
Squirrels	16,985	3,616.48	23,432	2,584.61
Rabbits	3,635	118.05	18,714	570.51
Deer	2,168	882.70	3,310	1,842.03
Other Game (Misc.) .		246.00		\$6,468.54
TOTALS		\$16,326.64		\$24,436.45

*Includes feed for all game the cost of which was not itemized for the different species on reports of officers.

Under authority granted by the Board, farmers in 43 of our 67 counties killed 1746 deer as a protection to farm property during the two year period. Of this number 1542 deer were retained by the farmers for food in their own household, 144 were turned over to hospitals, children's homes and other charitable institutions, and 60 were unfit for food.

An analysis of the deer killed by farmers shows the following:

Retained for food	88.3%
Delivered to Hospitals, etc.	8.3%
Unfit for food	3.4%

To show how widespread deer damage has become, the following table indicates those sections of the State most seriously effected.

DEER KILLED TO PROTECT PROPERTY

June 1, 1928 to May 31, 1930

<i>County</i>	<i>Retained For Food</i>	<i>To Hospitals Etc.</i>	<i>Unused</i>	<i>County Total</i>
Adams	13	4	1	18
Berks		1		1
Blair	10	1	1	12
Bradford		1		1
Butler		1		1
Cambria		1	1	2
Cameron	6			6
Carbon	7			7
Centre	68	8	2	78
Clarion	2		1	3
Clearfield	114	2	3	119
Clinton	19	1		20
Columbia	5	1		6
Cumberland	87	11	2	100
Dauphin	3	1		4
Elk	37			37
Fayette	4	6	1	11
Forest	5		1	6
Franklin	64	5	9	78
Fulton	2	1	1	4
Huntingdon	306	49	7	362
Indiana	2			2
Jefferson	87	6		93
Juniata	4			4
Lackawanna	11	1	8	20
Luzerne	18	1		19
Lycoming	333	2	3	338
Mifflin	120	6	10	136
Monroe	60	8		68
Perry	28	2		30
Pike	24		4	28
Schuylkill	4	1	1	6
Snyder	16			16
Somerset	7	9	2	18
Sullivan	5			5
Susquehanna	1	1		2

Tioga	3	3		6
Union	61	2	1	64
Venango		6		6
Warren		1		1
Wayne	2			2
Westmoreland	1	1		2
Wyoming	3		1	4
TOTALS	<u>1542</u>	<u>144</u>	<u>60</u>	<u>1746</u>

PROPAGATION

STATE GAME FARMS

During the biennium the Board established two game farms for the propagation of ringnecked pheasants and the production of pheasant eggs for distribution to Game Refuges and to those sportsmen's organizations and individuals interested in the raising of ringnecks to be released on lands open to public hunting.

The John S. Fisher State Game Farm, named in honor of the Governor of the Commonwealth, is located near Schwenksville, Montgomery County, and comprises 328.2 acres. This farm was dedicated September 21, 1929, under the auspices of the Montgomery County Sportsmen's Association.

The C. G. Jordan State Game Farm, given the name of the Hon. C. G. Jordan, Secretary of the Department of Agriculture, is located in Lawrence County about seven miles east of New Castle, Pa. The Lawrence County Sportsmen's Association conducted the dedicatory exercises on August 24, 1929. The Board has purchased 324.9 acres for this farm site.

In addition to the two game farms for the propagation of ringnecks, the Board has secured titles to 937.8 acres of contiguous farm and forested land in Laek Township, Juniata County, for the propagation of wild turkeys. While some titles were secured early in 1929, actual operation of the farm did not start until the 1930 hatching season.

In order to secure satisfactory breeders for the 1930 season at the turkey farm, the Board authorized the purchase of 331 turkeys showing considerable wild traits and well marked. We were fortunate in securing the services of the gentleman who raised these turkeys, and the birds were taken to the farm during the summer of 1929, and that fall and winter the majority of the birds were shipped for stocking purposes, the best birds—50 hens and 10 toms—being held for breeders in 1930.

In the fall of 1928 we concentrated 1,020 ringnecked pheasants at Refuge No. 16, in Tioga County. Early in 1929 we constructed necessary laying and holding fields at the Jordan State Game Farm to enable us to transfer these birds to that point. With this breeding stock on hand, arrangements were made to supply eggs to the Game

Refuges and the Fisher State Game Farm. Application for eggs in a limited number were accepted from sportsmen's organizations, farmers, etc. During this first season this farm produced 27,847 pheasant eggs, which were distributed as follows:

Shipped to:

Game Refuges	12,450
Game Protectors	1,700
Individuals	6,547
Fisher State Game Farm	1,500
Set at Jordan State Game Farm	4,766
Undesirable for Hatching	884



ONE OF PENNSYLVANIA'S GAME FARMS FOR PROPAGATING RINGNECK PHEASANTS

In addition to the eggs shipped to the Fisher State Game Farm from our own production, we purchased 3,500 eggs from licensed dealers in the State. As it was necessary to hold sufficient birds for breeders for the 1930 season, only 505 birds raised at this farm were shipped for stocking purposes, while we shipped 1,183 birds from the Jordan State Game Farm.

Statement Showing Results of Operating State Game Farms—1929.

	<i>Jordan State Game Farm</i>	<i>Fisher State Game Farm</i>
No. of Breeders for 1929	1,020	
No. of Eggs Produced	27,847	
No. of Eggs Shipped	22,197	
No. of Eggs Set	4,766	5,062
No. of Pheasants Shipped	1,183	505
No. of Breeders Held for 1930	1,528	762

Unfortunately, the expiration of the biennium comes in the midst of the hatching and breeding season, thus making it impossible to give a detailed report insofar as the State Game Farms are concerned for 1930. However, the following statement shows the egg production and distribution for 1930 for the Fisher and Jordan State Game Farms up to the end of the biennium May 31, 1930.

	<i>Jordan State Game Farm</i>	<i>Fisher State Game Farm</i>
Shipped to:		
Sportsmen, etc.	11,018	52
Refuge Keepers	7,525	5,905
Game Protectors	1,590	150
Set at Farm	9,188	7,020
Undesirable for Hatching	1,379	95
On Hand	1,306	900
Total Eggs Produced	32,006	14,122

For the same period we had 1,530 young pheasants in the rearing fields at the Jordan State Game Farm and 1,164 birds in the rearing fields at the Fisher State Game Farm. We hope to report a very successful second season.

PROPAGATION AT GAME REFUGES

While some reference was made in the Board's last biennial report to the propagation of ringnecked pheasants at Game Refuges, first undertaken in 1928, no definite results could then be mentioned. The following statement will show the success of the Board's plan to propagate ringnecks at the State Game Refuges:

	<i>Season of</i>	
	<i>1928</i>	<i>1929</i>
No. of Pheasant Eggs Furnished	10,280	12,450
No. of Pheasants Raised and Released	4,977	4,863
Average Cost per Bird	\$1.99	\$1.74

For the 1930 season there was shipped to Refuge Keepers a total of 14,030 pheasant eggs from the State Game Farms. Of the thirty-five Primary Game Refuges, propagation of ringnecks has been carried on at thirty-one. At Auxiliary Game Refuge No. 30, Huntingdon County, where we have a part-time salaried keeper, ringnecked pheasants have also been raised. Many of the Refuge Keepers and their wives have taken increased interest in this work, and, wherever possible, we should increase our facilities for this kind of work at the Refuges.

The following is a consolidated report of ringnecked pheasants raised and released from State Game Farms, Game Refuges, and by sportsmen and other interested individuals during the 1929 season:

<i>Source</i>	<i>No. of Birds Released</i>
State Game Farms	1,688
Game Refuges	4,863
Sportsmen, etc.	2,580
Total	9,131

PURCHASE OF GAME

During the biennium there was expended \$176,089.46 for the purchase of game for stocking purposes. In addition to the actual cost of this game, there was an expenditure for express charges amounting to \$14,807.23. The following table gives the total amount and kinds of game purchased for the periods indicated:

	<i>Fiscal Year 1928-29</i>		<i>Fiscal Year 1929-30</i>	
	<i>Number</i>	<i>Cost</i>	<i>Number</i>	<i>Cost</i>
Wild Turkeys	121	\$ 1,184.00	331	\$ 2,775.00
Wild Turkey Eggs	99	123.75		
Ringnecked Pheasants	6,058	17,946.35	1,606	4,645.00
Ringnecked Pheasant Eggs	8,055	2,248.15	3,549	881.80
Bob-white Quail	5,500	13,750.00	11,207	23,295.00
Bob-white Quail Eggs	100	50.00		
Hungarian Partridges	4,966	26,735.41		
Raccoons	43	399.00	159	1,567.00
Rabbits, Cottontail	50,365	38,884.70	48,629	40,524.80
Fox Squirrels	500	876.50	116	203.00

Naturally, the amount of game purchased depends to a great extent on the funds available, but to a greater degree on the supply of game for sale. Strange as it may seem to the average sportsmen, weather conditions frequently control the amount of game that can be delivered by shippers.

From the table above, showing game purchases during the biennium, it will be noted we purchased 5,500 bob-white quail in 1928-29 and 11,207 of the same in 1929-30. We had placed orders for 12,500 quail in 1928, but due to severe droughts in Mexico not any of the shippers could fill orders placed with them. In 1929 weather conditions were more favorable and the number of these birds supplied us last season exceeded that of any season since 1922.

Up to 1929 the Commission had frequently been disappointed by shippers of Hungarian Partridges, having been able to secure only 6,711 over a period of three years. During 1928-29 there was a plentiful supply of Hungarian Partridges, due to favorable weather conditions permitting the trapping of these birds, and we were supplied with 4,966. The following season we did not order any of these birds, and during the winter and early spring of 1930 our field officers made a survey of the Hungarian Partridge situation in the State. From their reports there were located 306 coveys, having approximately 3,543 birds. The survey further showed there are 31 of the

67 counties in the State having some of these birds, and of this number in 21 counties less than 10 coveys each were actually found. While some reports have reached us of young birds this breeding season, we contemplate another survey during the fore part of 1931.

No difficulties have been encountered in securing the number of cottontail rabbits desired for stocking purposes, but just how long the source of supply will continue is problematical.

While we receive many offers to furnish raccoons, the majority of the animals offered are pen-raised and therefore unsuitable, to some extent, for stocking purposes. The majority of those propagating these animals have excellent stock, and since raccoon pelts are always in demand in the raw fur market, the prices asked for the live animals make the stocking of raccoons almost prohibitive. The majority of the raccoons stocked have been trapped in the western states, and we have been extremely careful in purchasing these western raccoons that only healthy, normal individuals should be shipped to us.

LEG-BANDING BOB-WHITE QUAIL

While we have leg-banded both bob-white quail and ringnecked pheasants in former years, this practice has been discontinued, for few returns of the bands were made by sportsmen. However, before releasing bob-white quail this spring in those counties bordering the States of Ohio, West Virginia, Maryland, Delaware and New Jersey our officers banded each bird. Some definite information should be acquired, if proper cooperation is secured, as to whether or not quail released in Pennsylvania migrate to neighboring States. We have asked the Game Officials of those States to assist us and we are securing as much publicity on this matter as possible.

GROUSE EXPERIMENTS

In cooperation with the Rolling Rock Club near Ligonier, Pa., we have undertaken the propagation of the ruffed grouse. From a few settings of grouse eggs secured in a wild state in 1929 there were raised to maturity six birds, one cock and five hens. During the winter a number of wild birds coming into our possession were placed in pens at this experimental farm and we had high hopes of establishing a record for grouse raised in captivity. However, blackhead got among the wild birds and the breeding stock was reduced to the hand-raised birds and a few wild birds. During the laying season of 1930 the remaining grouse produced a satisfactory number of eggs and the percentage of fertility was very good. Even though we are merely skimming the surface on the propagation of grouse in captivity, some very important facts concerning this bird have been learned. We know, first of all, that it is possible to hand-raise grouse, and the number of eggs produced per bird shows us that it is worthwhile to

continue the attempt. It has been proven beyond any question that the ruffed grouse will lay in captivity and that it is polygamous.

TRAPPING AND DISTRIBUTION OF WILD GAME

Due to the protection given to the hen ringnecked pheasant, a situation has developed in some sections of the State, insofar as the sex ratio of the pheasant is concerned, that may be paralleled with the present deer problem. In addition to the unbalanced sex ratio, these birds have increased in such numbers that considerable damage is being done to truck patches, gardens, etc.

During the winter of 1929-30 our officers in southeastern Pennsylvania experimented with a trap to take ringnecks alive in those sections where there is a disproportionate abundance of hen birds. A satisfactory trap has been developed and this coming winter we plan to trap several thousand hen pheasants, to be released in suitable sections throughout the State.

There are a number of extensive public and private park systems developing in the State, and since hunting is prohibited in these sections, rabbits have increased in such numbers as to become destructive, and a nuisance. This is especially noticeable in the large park system under control of the City of Pittsburgh, and those in charge of the parks will permit us to trap rabbits this winter for distribution elsewhere. Such trapping operations have already been undertaken on Barbados Island in the Schuylkill River, the site of a DuPont Powder Mill, and also on Presque Isle, Lake Erie, under control of the Pennsylvania State Park and Harbor Commission of Erie.

STATE GAME LANDS

The purchase of lands for game refuge and public hunting purposes, which lands are given the general designation of State Game Lands, has been pursued by the Game Commission since 1920. During this period of ten years a total of 173,551.4 acres of good game territory was conveyed to the Commonwealth, and at the end of the period May 31, 1930, the Board had under contract for purchase 111,378 acres, to be conveyed as boundary lines are surveyed and titles searched and found acceptable to the Commonwealth.

The increase of seventy-five cents to the resident hunter's license provided by the General Assembly in 1927 amounts to about \$378,000 annually. This increase made it possible for the Board to set aside approximately \$200,000 each year for the purchase of lands. The balance is required for the creation and maintenance of refuges and public hunting grounds.

The location and area of each block of State Game Lands is indicated in Table Number One. Attention is also called to an outlined map

appended to this report on which the general location of game refuges, as well as lands purchased and under contract of purchase, are shown.

STATE GAME REFUGES

Very few changes in the system of game refuges were made during the biennium. The plan of procedure is practically the same as that observed for ten years. In fact, the same policies for the Primary System have been in effect for twenty-five years, except that refuge keepers' headquarters have been greatly improved. One primary refuge, on leased lands, was abandoned during the early part of 1930, but a new one to replace it is under consideration. The total areas contained in the 34 now maintained is 75,727.7 acres.

The Auxiliary System, on lands for which only the hunting rights are controlled by the Board, was somewhat reduced during the past two years. Three of these refuges were abandoned and one created. The area of the 68 still maintained aggregates 26,699 acres.

The explanation for not increasing the number of refuges during the biennium is that the Board desires to set aside as much money as possible for the purchase of lands while they can be acquired at relatively low prices, thus materially increasing the extent of public hunting ground. It is planned to create new refuges, particularly for the protection of wild turkeys and ruffed grouse, in the future when available lands are less abundant and prices, perhaps, relatively higher.

Game refuges maintained at the end of the biennium are listed in Tables Numbers Two and Three.

FIXED CHARGES ON STATE GAME LANDS

Commonwealth-owned property is not assessable for taxation purposes. To reimburse counties and townships for loss of taxes, which would in some instances result in hardships to schools, road improvements and even county activities, fixed charges amounting to five cents are paid for every acre of land acquired by the Game Commission. Of this, two cents per acre is paid to the township school district, two cents for township road purposes, and one cent per acre goes into the county treasury. For these purposes a total of \$5,125.05 was paid by the Board in 1929 and \$6,923.92 in 1930.

The amounts paid to the respective counties and townships during the biennium will be found in Table Number Four.

REFUGE KEEPERS' HEADQUARTERS

Special efforts were made during the biennium to improve materially the living conditions of refuge keepers and their families. Old dwellings were repaired and new ones constructed at refuges where buildings were in the least satisfactory condition. Grounds surround-

ing the buildings were improved by grading lawns and by planting grass seed, flowers and ornamental shrubs and trees.

A standard plan for dwelling, garage and barn has been adopted for all primary refuges. During the two years covered by this report four new dwellings, costing approximately \$7,000.00 each and having modern conveniences, were constructed. Four barns, three



THESE SIGNS ARE PLACED AT EVERY GAME REFUGE HEADQUARTERS

garages and a number of other out-buildings were provided. The estimated value of buildings comprising refuge keepers' headquarters, owned by the Game Commission, was placed at \$134,515 as of June 1, 1930.

REFORESTATION AND GAME FOOD PLANTING

To provide shelter and additional food for game, large numbers of seedling trees and shrubs were planted during past years. Recently efforts along this line have been limited to a few sections of the State, because of the widespread destruction of seedlings by deer. In many sections it is entirely useless to plant, as deer browse on the young and tender plants directly after planting.

A total of 38,310 seedling trees and shrubs were planted during 1929. Of this number 25,560 were conifers and 17,750 were deciduous shrubs and small-sized trees which produce suitable food for game.

In 1930 a total of 32,555 seedlings were planted; 30,555 were conifers

and the other 2,000 were Asiatic chestnuts secured from the Bureau of Plant Industry, United States Department of Agriculture.

Various species of Asiatic chestnuts are supposed to be immune to chestnut blight, which has practically exterminated our native chestnut. If the Asiatic varieties can be successfully introduced in sufficient quantities wild life will ultimately be supplied with nuts valuable as food.

Efforts have repeatedly been made to provide more food for wild water fowl by planting suitable material in lakes, ponds and swamps of the State. During the fiscal year June 1, 1929, to May 31, 1930, the following food-producing species were planted principally in the northeastern part of the State:

- 635 pounds of wild rice.
- 2500 wild celery winter buds.
- 600 wapato duck potato tubers.
- 3800 bur reed plants.
- 55 bushels of floating and submerged duck's meat.
- 4 pounds of floating pondweed seed.

Innumerable ducks and other water-fowl cross Pennsylvania in their migratory flights. They need resting places and food during migration. It is a well-known fact that ducks will remain for fairly long periods of time if food is available, and by increasing it duck hunting within the State should be greatly improved. Consequently the Game Commission is anxious to provide food wherever suitable waters are available. Unfortunately, plantings made in past years have not been very successful—in fact, most of them have resulted in failure. If the plantings made in the spring of 1930 produce no better results than those of past years the Board will in all probability find it necessary to discontinue their efforts in this connection.

CONTROL OF FOREST FIRES

Employees of the Game Commission cooperate with forestry officials in the prevention and extinction of forest fires in every possible way. Fires not only destroy timber, but likewise game and game food and cover. Cooperation is effected in several ways. Whenever the opportunity presents, game protectors do their part in spreading the doctrine of fire prevention, through cautioning hunters and campers to be careful with fire, and by talking to sportsmen's associations, school children, boy scouts, etc. In the extinction of forest fires they serve as ex-officio forest fire wardens.

During the biennium salaried employees of the Commission devoted 1,452 hours in extinguishing a total of 192 forest fires.

COOPERATION IN THE CONSTRUCTION OF DEER-PROOF FENCES

Under provisions contained in the Act of Assembly, approved June 2, 1923, as amended in 1925, the Game Commission continues to

assist farmers, orchardists and commercial truck growers in the construction of fences to protect their property from deer. The Act specifically appropriates \$10,000.00 annually for this purpose. During the biennium the Board expended \$14,494.67 for 10,252 rods of fencing used on 33 different projects. For each project the applicant proved that he suffered material damage and agreed in writing to construct the fence at his own expense, which is one of the requirements of law.

Less than one-half of the available fund was expended during the fiscal year June 1, 1928 to May 31, 1929. Many persons needing fences withheld their applications, awaiting the outcome of the special doe deer season declared by the Board in the fall of 1928. They expected relief through the killing of surplus does. Apparently, not enough does were killed to accomplish this result, and damages continued as before. In consequence, more fencing was applied for during the fiscal year 1928-1929 than could be provided, and many applications were held over until the next fiscal year, beginning June 1, 1930.

Individuals to whom fencing was furnished during the biennium are listed in Tables Numbers Five and Six. A comparative statement of the quantities of fencing furnished, and the cost to the Game Commission, since the Deer-Proof Fence Act became a law in 1923, will be found in Table Number Seven.

CONTROL OF PREDATORS

Control of predatory animals and birds continues to be an important feature of our work. Four Trapping Instructors, experts in their line, are now employed in connection with this work. When Trapping Instructors were first employed they devoted practically their entire time to visiting many and various parts of the State and giving demonstrations in the trapping of predatory animals in a humane manner. They first visited those sections where predators had almost entirely destroyed our game birds and animals, and after getting those sections organized many special requests for their services were received. These men got back to the people living in the remotest sections of our mountainous country, and this, with our present system of bounty payments, has put these people in touch with our work, with results beneficial to all concerned.

The biennium saw the fifteenth birthday of our bounty system; and the experience of these fifteen years places us in position to come to some definite conclusions as to whether or not the payment of bounty is serving its intended purpose. Studying our records for five-year intervals, the conclusion we must come to is that the control of predators in Pennsylvania is well in hand, and this is, after all, what we desire, and not complete extermination. The figures showing the

average kill of predators for the three five-year periods are interesting, and they are given below :

	<i>Wildcats</i>	<i>Gray Foxes</i>	<i>*Red Foxes</i>	<i>Weasels</i>
1915-20	460	4,191	3,564	36,794
1920-25	422	5,577	3,765	49,029
1925-30	349	7,968	3,893	54,707

*Bounty no longer paid on the red fox

The figures as shown indicate an increase in the animals, except on the wildcat; but when we consider that our special efforts have been used in instructing our citizens in better trapping methods, so as to increase a trapper's annual catch from two or three foxes, for instance,



THE GAME COMMISSION'S LIVE ANIMAL EXHIBITS VISIT MANY FAIRS DURING THE SUMMER MONTHS

to ten or twelve, and the occasional weasel trapper to one who takes fifty to a hundred a year, we feel that the kill of predators has now about reached its peak, where it may remain for a few years, and then start to decline.

The number of pelts of predators presented for bounty during the biennium exceeded the number for any previous two-year period. A summary of these claims follows:

	<i>Wild Cats</i>	<i>Gray Foxes</i>	<i>Red Foxes</i>	<i>Weasels</i>	<i>Goshawks</i>	<i>Amount</i>	<i>No. of Claims</i>
1928-29	278	6,955	2,973	50,335		\$ 88,276.00	29,345
1929-30	190	7,917	13	84,370	76	119,300.00	40,479

Our system of paying bounty makes bounty frauds almost impossible. But a few parties attempted, nevertheless, to collect illegal bounties, and this resulted in the prosecution and conviction of sixty-three individuals for violation of the bounty law. Any claim received that is at all suspicious is thoroughly investigated, and our employees have so familiarized themselves with the many little details overlooked by one attempting a fraud that an attempt of this kind is foolhardy.

Our practice of visiting county fairs, sportsmen's picnics and scout camps during the summer months with an exhibit of native birds and animals was continued during this period and as usual attracted considerable attention. We also had an educational exhibit at sportsmen's shows in Harrisburg, Philadelphia and Pittsburgh.

RESEARCH

Every field officer of the Game Commission is continually engaged in a very valuable form of research work, by his daily observations on the ground, and the Commission must always be largely dependent on these first-hand contacts with the facts in the case.

But, in addition, the Commission has set aside a special department of research, to collate these facts of observation, to supplement them with laboratory examinations, and so to find their practical significance, and, where possible, the remedy for difficulties and dangers brought to light by these field observations and laboratory examinations.

The Bureau of Animal Industry of Pennsylvania has again generously put at our disposal all the facilities of their laboratories, and also the services of their field officers; and the U. S. Biological Survey has not only given us all possible service from its offices and laboratories, but some of its leading field officers have come to the State, on several different occasions, for consultation and personal observation in the field. The Plant Pathologist of the U. S. Department of Agriculture, has also visited the State on two occasions within the past year for observation and consultation on matters in his own lines of investigation, and the Chief of the Zoological Division of the same department has been of generous and valuable assistance in the identification of parasites infesting our game animals and birds. And members of the faculty of Pennsylvania State College have been of invaluable service, and have given an immense amount of their time, in helping to solve the problem of laurel and rhododendron as food for deer.

The most common call for research work continues to be for the examination of supposedly diseased specimens of game birds and animals.

Two wild turkeys sent in were found to have died of blackhead (infectious entero-hepatitis), and two ruffed grouse and a very few quail were found infected with coccidiosis. But, with these few exceptions, not a single case of any infectious disease was found in either bird or animal.

Scores of rabbits were examined, especially for tularemia. But not a single hint of tularemia was found in any of them. (A case was reported from Erie, but the patient had never been in the State before the attack developed, and only came to Pennsylvania for hospitalization.)

Remembering that the rabbit is well known as being more subject to disease, and to more different kinds of disease, than any other animal, it is not surprising that many different causes of death were found among these scores of individuals. But not a hint of tularemia or any other infectious disease, or disease communicable to human beings, was found in a single case.

It is noteworthy that not a single ringnecked pheasant was sent in that was even supposed to have any disease, except a few birds in one case of examination of a shipment from another State. But many of these birds were killed for examination of their stomach contents, after certain farmers made complaint that pheasants were pulling up their young corn. In only a single instance was corn found in either stomach or gizzard contents, and in that one case only five grains that had apparently never been planted at all. But in practically every stomach examined there were found numbers of injurious insects, and in some stomachs many of the most injurious insect pests were found in considerable numbers.

Examination was made of a number of ruffed grouse found dead, and in one case death was plainly caused by an enormous number of round worms (ascarids) in the digestive tract. (Crows have been found to spread these worms more widely.) In two cases laboratory examination showed death from coccidiosis; in two cases the bird had manifestly flown against something and broken its neck; and in the other cases no cause of death could be determined.

As usual, the examination of all hawk stomachs coming to hand has been conducted with painstaking thoroughness, several hundred having been examined each year. Nothing strikingly new has been found except in a few solitary instances that were manifestly abnormal; as, for instance, when a barn owl killed forty-odd pheasants at the Fisher Game Farm, a red-tailed hawk killed pheasants at the same farm, and a marsh hawk made most determined efforts to take pheasants at the Jordan Game Farm.

Besides the well known and commonly recognized enemies of grouse and other game birds, such as forest fires (with chief place), goshawks,

owls and weasels, it is manifest that snakes are still a serious menace to our birds and rabbits and other small game. Rattlesnakes have been killed this spring that had in one case just swallowed a whole nest of ruffed grouse eggs, and in another case a nest of young rabbits.

A constant search for parasites, both external and internal, has been made, but nothing new or striking has been found, except in the case of three raccoons, purchased in another state, which died with the digestive tract literally packed with an incredibly large and as yet unnamed species of ascarid, and the discovery of a new species of *Ostertagia* in the fourth stomach of several deer found dead.

It is rather interesting to find, from observation and examination, that in cases of damage done by bear it is almost always the male bear doing it.

Because it is our most pressing present problem, far more attention has been given to our deer problem than to any other matter coming before the Commission in the last biennium.

Because the sexes were so manifestly seriously unbalanced with our deer, after the most extensive and thorough field observations, and after consultation with all possible authorities on such problems, in the fall of 1928 a special season was provided for the killing of doe deer, and about 25,097 does were legally killed.

But observation showed that while in 1929 there were more fawns than ever before, and the bucks legally killed averaged larger and finer, there were still in the fall of that year in some parts of the State as many as forty to fifty does and fawns to one adult buck, and in some places apparently even more.

Each winter an enormous number of deer die, practically all fawns, with no signs of disease, but apparently from sheer starvation.

Several special trips were made into Clearfield and Pike and other counties in the fall of 1928 and again in the fall of 1929 and the early spring of 1930 by officers from the Harrisburg Office, accompanied by experts from the offices of the U. S. Biological Survey and the U. S. Department of Agriculture at Washington, and also by officers of our own Bureau of Animal Industry, and various district game protectors, fish wardens and forest rangers. Food conditions were thoroughly studied, and a large number of dead deer were examined—both where they lay and later in the laboratories—every one of them a fawn. Not one of them showed the faintest sign of disease, either on field examination or in the laboratory; it was simply a plain case of utter emaciation and starvation, though all stomachs were reasonably full of laurel or rhododendron. And in many cases everything was eaten except these plants, and in places even these had been completely eaten out or killed by over-browsing. The “deer-line” was so high that a fawn could not possibly secure nourishment.

To find, if possible, some means of meeting various phases of this complicated deer problem, a special "deer conference" was held at the Harrisburg headquarters of the Game Commission on March 21, 1929.

Beside members of the Board, the bureau chiefs in the Harrisburg Office, and the district game supervisors of the State, there were present, by special arrangement, representatives from the Pennsylvania Bureau of Animal Industry, the Department of Forests and Waters, Pennsylvania State College and Bucknell University, and the U. S. Biological Survey, — of these latter those who had especially to deal with the somewhat similar deer problem in the Kaibab Forest.

After an exhaustive discussion of the many different phases of the deer situation in Pennsylvania, in which discussion almost everyone present took part, and a due recognition of the peculiar psychology and habits of the white-tailed deer that make almost every element of the problem still more difficult of solution, a special fact-finding committee was appointed, with a prominent officer of the U. S. Biological Survey as chairman, to devise and direct a series of experiments under strict scientific test conditions, to determine any possible facts pertinent to the problem, and especially to make nutrition tests of laurel and rhododendron as food for deer, and also to determine if possible the effect of the *Cephenomyia* nose fly on deer in Pennsylvania.

In accordance with these plans, Dr. Norman H. Stewart, of Bucknell University, has continued his special studies of *Cephenomyia probifer*, a nose fly already found infesting many of our deer, but little new has come so far of this study, and conclusions can not yet be announced, though it would appear so far that it has little to do with the mortality among Pennsylvania deer.

Some twenty deer, from different sections of the State, were placed in paddocks at Pennsylvania State College for feeding and nutrition tests under the authority and at the expense of the Game Commission, and to be conducted by the Institute of Animal Nutrition of Pennsylvania State College, in consultation with the officers of the Board of Game Commissioners and the Special Fact-Finding Committee already mentioned.

It was already well known that laurel and rhododendron were poisonous to domestic hoofed animals, one-third to one-half of one per cent of the animal's gross weight being a fatal dose. But no opportunity had ever been had to determine whether the deer family might be immune to this poison, or if the enforced eating of these plants in winter, because of the scarcity of other foods, might be at least a contributing factor in the high death rate of our fawns in late winter.

With several months of experiments it was found that deer would eat very little of either of these plants if they had access to other food. Then, as a next step in these nutrition experiments, one-half of

the animals under test were confined to laurel exclusively as food for more than six weeks, and the other half wholly to rhododendron for the same period.

And not one of them died, except one that died from pneumonia; though very possibly, being so weak and emaciated, some or all of them would have died if they had been in the wild state, and so had the further muscular and nervous strain of having to seek their food, instead of having it brought to them as often as they could eat it. And the excitement and strain incident to a life in the wild would have undoubtedly put an additional strain on their vitality that was so lowered even under the most favorable conditions.

Forced feeding of different individuals with these plants was carried on to determine what percentage, if any, would finally kill, and it was found that about one and eight-tenths per cent of the animal's gross weight was required to kill a deer, instead of the one-third to one-half of one per cent that is fatal to other hoofed animals.

The net result of this nutrition test was to show that while not poisonous to deer in any amount they would likely ever eat, laurel and rhododendron are — as already shown by chemical analysis — as a sole food too deficient in nutrition values to maintain life during a whole winter, — a result emphasized by the fact that before the end of the feeding test nearly every animal showed unmistakable signs of rickets.

Thus the Pennsylvania Game Commission settles another long debated question of real importance.

Examination of foetuses shows that the breeding season of our deer is no longer by any means confined to the period usually accepted, three-month foetuses having been found more than a month after other healthy and full-term fawns had been born. This is probably due to the small percentage of bucks, nature thus trying to compensate for the abnormal condition by period after period of heat on the part of the doe, till she does meet with a buck, instead of the normal single period annually.

And even with this extended breeding season, the sexes are at present hopelessly unbalanced, to say nothing of the increasing number of fawns born too late, because of it, to have any reasonable chance of survival through the following winter. Examination of 616 sets of female reproductive organs in the doe season of 1928 showed *only six pregnancies*, — *less than one per cent*. And examination of twenty sets from does illegally killed this last fall showed *one* pregnancy.

Arrangements will be made as soon as possible, under the strictest scientific test conditions, to determine the maximum number of does that should be allowed to one buck, — another question the answer to which is still awaited by scientists and sportsmen alike. But it is un-

mistakably plain that at present our does far overbalance our bucks, even if no bucks at all were to be killed by hunting.

EDUCATIONAL ACTIVITIES

Education is one of the most important factors in our system of game management. Without it the general public could never keep abreast of the modern methods of wild life conservation. The educational program of the Game Commission is far-reaching indeed. Not only is it directed at the sportsmen, in order that they may always be fully informed concerning the activities of the Commission, but it is centered to a large degree upon the younger generation that must eventually take the place of the present organization.

Educational programs in the form of lectures, motion pictures, stereopticon slides, bulletins, posters, and so forth, have found their way not only into the meeting rooms of sportsmen's associations, the assembly halls of colleges, the auditoriums of our high schools, and the summer camps of our Boy Scouts, but have searched out the remote country cross-roads stores, the small communities of the mountain fastnesses, and the hosts of little red school houses. During the past two years educational programs of one sort or another have been presented at follows:

<i>No. of Meetings</i>	<i>Total Attendance</i>
1,530	261,035 (Adults 106,909 (Children 154,126)
<i>Principal Meetings</i>	
Sportsmen's Associations	301
High Schools	476
Grade Schools	386
Boy Scouts	50
Colleges	17
<i>Miscellaneous Meetings</i>	
Granges	9
Lions Clubs	13
Garden Clubs	3
Trapshooter's Associations	8
Farmer's Clubs	2
Izaak Walton League Chapters	21
Fox Hunt Clubs	8
Civic Clubs	5
Kiwanis Clubs	13
Rotary Clubs	15
Girl Scouts	23
Bird Clubs	20
Y. W. C. A.	10
American Legion	16
Veterans of Foreign Wars	3
Chambers of Commerce	6
County Fairs	15

In addition such organizations as might be termed local community clubs were visited to the number of 27.

During the past two years the State Board of Censors has cooperated with the Commission by circulating several of our motion picture reels. Reels which we loaned that department were shown at 132 meetings, reaching 55,595 persons.

Many talks were given by Members of the Board, the Executive Secretary, and other officials, which are not included in the above tabulation. The educational activities of the Commission are being received enthusiastically everywhere. In very few instances was it necessary to disappoint any association.

Much has been accomplished in the way of amassing new material for our motion pictures, in creating new features, and in revising old reels. The demand from the schools, particularly, has increased considerably; consequently we have had to increase the motion picture facilities accordingly.

Whereas the standard motion picture film was used almost exclusively heretofore, during the past year and a half it has been necessary to introduce the 16 mm. equipment. As a result we have practically the same line of films available in this smaller stock as is available in standard material. Many schools have adopted the smaller equipment, as have a few sportsmen's associations and service clubs. All of the educational services of the Game Commission are rendered free of charge.

Motion Pictures now available for free distribution are as follows:

The White-tailed Deer in Pennsylvania	3 reels
The Black Bear in Pennsylvania	2 reels
The Beaver in Pennsylvania	1 reel
Capturing a Pennsylvania Wild Cat	1 reel
The Wild Turkey in Pennsylvania	1 reel
The Boxing Cubs	1 reel
A Hawk and a Robin	1 reel
Sportsmanship <i>vs.</i> Vandalism	1 reel
Wild Life Conservation in Pennsylvania	4 reels
Birds and Mammals of Pennsylvania	2 reels
The Elk in Pennsylvania	1 reel
Game Farming in Pennsylvania	2 reels
Spring Fever	1 reel

Special reels on the bird and animal life of the State were prepared for the schools, particularly, and these have had wide circulation and are still in great demand.

The press is unquestionably one of the most important agencies through which the activities of the Commission can be broadcast. Fortunately the State maintains a press service of its own which circulates, to all newspapers in the State, items of interest forthcoming from all departments. Needless to say we have used this service to the greatest extent, launching several large campaigns pertinent to important phases of the work, as they occurred from time to time.

Bulletins and posters of various kinds have been much in demand and have necessitated reprinting several times. Copies of all bulletins and posters can be secured free of charge at the offices of the Commission. The bulletins now available include: "A Year's Program for Bird Protection," "More Food for Upland Game," "Game Administration in Pennsylvania," "The Pennsylvania Deer Problem," "Land Purchase Program," "Pennsylvania's Game Refuges and Public Hunting Grounds," and "Hatching and Rearing Ringneck Pheasants."

Numbers of special articles on the Commission's activities have appeared in the most popular national periodicals and scientific journals.

Large collections of both mounted specimens and scientific skins of our native hawks and owls have been amassed and these form an important part of our educational exhibits.

Due to intensified training in wild life management now being conducted in many of our colleges, and even in the summer camps of our Boy Scouts, the department has been called upon to send representatives into the field for several days at a time to act as instructors.

The collection of protected birds and animals by museums, colleges, and so forth for scientific and educational use is considered an educational program, and it has therefore been a part of the educational activities of the department to determine those who are justified in possessing collecting licenses. The private collector is not permitted to operate in Pennsylvania at all, and only when a thorough investigation reveals an absolute need on the part of an educational institution to possess certain specimens is a collecting certificate approved. In this manner the Board controls the indiscriminate killing of many of our valuable song and insectivorous birds.

GAME SEASONS OF 1928 AND 1929

While some States have permanently adopted a three-day-a-week hunting season, Pennsylvania did not give this system a trial until 1928. That year the Board made the open season for practically all game Thursday, Friday and Saturday of each week from October 15 to November 30. An open season of this kind will meet with the approval of a large number of sportsmen and will without doubt help considerably in conserving the game supply. However, it is believed the sportsmen of Pennsylvania are not as yet ready for a change of this kind, especially in view of the strenuous efforts made in the past to confine all small game hunting to the month of November. Therefore, in 1929 the Board confined open seasons on small game to the month of November, with the usual deer season in December.

Deer: In an effort to correct a serious situation insofar as the

State's deer herd is concerned the regular season for male deer only was closed in 1928 and in lieu thereof the entire State was opened to the killing of antlerless deer weighing fifty pounds or more with entrails removed. During this special deer season there were 25,097 legal antlerless deer killed, relieving to some extent the unbalanced sex ratio, the serious food conditions, and deer damage in some few sections. While a few seriously objected to this special deer season, it is gratifying to note that the sportsmen of the State now realize the dangers with which their future deer hunting is faced and the good results to be obtained by keeping the deer herd under control in reasonable numbers. In 1929, with the regular deer season in force, there was a kill of 22,822 male deer, and never before in the history of deer hunting in Pennsylvania were there so many large deer killed, and reports of wonderful heads secured for trophies were received from all parts of the State.



DEER SOON LEARN THAT A GAME REFUGE WIRE MEANS SAFETY

Bear: The bear kill during the biennium showed these animals to be found in satisfactory numbers, there being a total kill of 874 for the period. Reports received seem to indicate that there will be but a small increase in these animals this year, as many last-year cubs were found by our officers during the spring in a starved condition, and few 1930 cubs were found.

Wild Turkeys: The special three-day-a-week season in 1928 was a factor in increasing our supply of these game birds. There was a kill

of 2,362 turkeys in 1928 and 3,834 in 1929. A favorable hatching and breeding season in 1930, together with an increased supply of these birds for stocking purposes, should result in a larger kill during the next two years.

Rabbits: There were over six million rabbits killed during the 1928-29 open seasons and there were stocked in the same period 98,994 cottontails. A good supply of these animals is in evidence and we do not believe an increase in restocking these animals is warranted.

Ruffed Grouse: The season on ruffed grouse in 1929 was closed and this action met with the approval of the majority of grouse hunters. The 1927 season showed a kill of over three hundred thousand of these birds, while in 1928 only half of that number were killed.

Due to a favorable hatching season in 1929 and a fair hatching season in 1930, which was hindered somewhat by extensive spring forest fires, grouse show an encouraging increase throughout most sections of the State. It is, however, felt that in order to better safeguard our present supply of these birds the season and bag limit should be reduced for the game season of 1930.

Squirrels: Due to the lack of natural food, squirrels were very scarce during the 1929 season, while the special three-day-a-week season of 1928 reduced the kill. Considerable damage to corn crops was reported prior to the opening of the 1929 season, and by the first of November few squirrels were in the mountains, many of them having migrated to sections where they could secure food. With the return of better food conditions our sportsmen will likely find these animals back in goodly numbers.

Ringnecked Pheasants: The kill of ringnecked pheasants has steadily increased and they have provided wonderful sport during the last two seasons. The increase of these birds is very marked, especially in the southeastern part of the State, where they are now found in such numbers as possibly to cause some damage to farmers and truckers. Since we have been killing male birds only for a number of years, it is now found that some attention must be paid to the possibility of the sex ratio of these birds becoming unbalanced, as it has occurred in our deer herd.

With increased production of these birds at the State Game Farms, game Refuges, and by sportsmen and farmers, a steady increase in these birds is assured throughout sections of the State favorable to them.

Bob-white Quail: It is with a sense of deep satisfaction that we can report an enormous increase of the "bob-white" throughout the State. Anyone travelling through the southern sections of Pennsylvania during the mating season of these birds in 1929 and 1930 could hear them calling on every side. This increase, beyond any doubt, is

the result of the absence of deep snows during the past four winters and the splendid cooperation of the lovers of quail in feeding them during the winter and early spring. Hatching seasons of the two years mentioned were also favorable.

Woodcock: Reports received from our officers indicate these birds are nesting in Pennsylvania in increasing numbers. Favorable weather conditions in the fall, however, will continue to control the kill of these birds. Since our season opens for woodcock on October 15, some shooting is assured and a steady increase in their kill is noted. Since this bird belongs to the migratory species, its protection naturally is a matter for both the Federal and State Governments.

Wild Water-Fowl: As with all migratory birds, weather and food conditions control their flights. While some few waterfowl nest in Pennsylvania, this local nesting is by no means enough to guarantee satisfactory shooting to sportsmen. The kill of these birds remains rather steady, and we have no reason to believe it will increase, as we have but a limited number of places favorable to the planting of food to attraet them.

Hungarian Partridges: While we have stocked several thousand of these birds during the biennium, to supplement those birds previously released, no appreciable increase in their numbers is found. We have never had an open season, and the future of this partridge in Pennsylvania is problematical, although certain sections of our State seem by nature suitable to their increase.

The 1930 survey of the State failed to locate very many of these birds, yet their ability to care for themselves during extremely bad winters may account for this failure.

Beaver: There continues to be a steady increase of these animals and our trappers have been unusually active during the biennium in removing beaver from streams where they have caused property damage. We have reached the point where it is now necessary to take some steps to keep them in control and a plan to do this is now being worked out.

Elk: There were 18 legal bull elks killed during the past two seasons compared with 35 killed during the seasons of 1926-27. Their range in Pennsylvania is limited, and for that reason they have not increased to any great extent. In this connection it is felt that since a non-resident licensee is entitled to hunt for and kill bull elk with four or more points to each antler some provision should be made to permit him to remove his trophy from the State.

HUNTING ACCIDENTS

When over half a million people handle firearms of all descriptions in the fields, woods and mountains, it is inevitable that a certain percentage of that half million will be either killed or wounded. Even in

the face of legislation designed to overcome careless shooting, educational activities along these lines on the part of the Board, and newspaper publicity, the number of those meeting with such accidents remains at about the same figure for each hunting season.

The table below shows the number of accidents during the last five years:

	1925	1926	1927	1928	1929
Self-inflicted:					
Fatal -----	27-52%	20-42%	37-57%	25-55%	32-57%
Non-fatal -----	86-38%	72-36%	68-24%	64-27%	77-27%
Inflicted by others:					
Fatal -----	25-48%	27-58%	28-43%	20-45%	24-43%
Non-fatal -----	143-62%	125-64%	211-76%	174-73%	199-73%

It will be noted that the majority of the non-fatal accidents are caused by some one other than the injured person, and since few of these accidents are due to shooting in mistake for game, it is only reasonable to conclude that gross carelessness prevails. If those who go afield would take it upon themselves to correct the faults of others when carelessly handling a firearm many of these accidents would be avoided. While we may console ourselves with the thought that other forms of outdoor recreation result in a still heavier loss of life, we should continue our efforts toward reducing both fatal and non-fatal accidents.

SPECIAL LICENSES

Due to an increase in the fees for Fur Dealers' Licenses we find a reduction in the number of these licenses issued, but our revenue shows an increase. However, all other special licenses show an increase in issuance, notably those issued to taxidermists and propagators. Legislation requiring those holding field trials or field meets to be possessed of a license resulted in 35 such licenses issued, and the first year a license for fur-farms was required finds 58 licenses taken out to operate.

SPECIAL LICENSES ISSUED BY FISCAL YEARS

Fiscal Year	Taxidermist	Ferret Owners	Ferret Breeder	Propagating	Field Trial Permit	Collecting	Fur Farming	Fur Dealers	Special Deer
1913-14	105			16		6			
1914-15	194		3	21		9			
1915-16	132	62	3	41		14			
1916-17	119	55	2	49		11			
1917-18	100	62		28		5			
1918-19	108	34	5	22		13			
1919-20	124	66		27		14			
1920-21	162	61	6	30		18			
1921-22	232	157	4	40		16			
1922-23	242	106	1	40		13			
1923-24	295	74	2	62		13		679	100
1924-25	339	69		57		16		898	456
1925-26	443	77	4	82		20		1,073	5,713
1926-27	481	58	1	113		15		1,084	5,150
1927-28	533	65	1	113		18		1,328	
1928-29	588	65	1	129		22		1,370	78,876
1929-30	624	76	1	181	35	28	58	807	

STATUS OF FUNDS

The financial statements appended to this report, as well as the financial chart, give in detail the receipts and expenditures for the biennium. The sportsmen of Pennsylvania are conducting a large business and each year finds their assets gradually accumulating. Would it not be proper to state that the Pennsylvania sportsmen will in a few years be wealthy in their own right to thousands of acres of open hunting lands?

The receipts are of course deposited with the State Treasurer and expenditures may not be made except under the authority of the fiscal officers of the State entrusted with the expenditures of public funds.

The accounts for the biennium were audited by the State's Auditor General and found to be in good condition.

The Game Commission, like all other State Departments, must prepare and submit a budget for approval by the Governor. The budget year runs from June 1 to May 31 next following, while the period of greatest revenue receipts extends from October to January. Therefore, in preparing the budget, receipts must be estimated and thought given to having a satisfactory balance at the end of the fiscal year to meet obligations until additional funds become available. Since the source of revenue is practically confined to the issuance of resident and non-resident hunting licenses, it is well to record here the number of such licenses issued during the biennium:

<i>Year</i>	<i>Resident</i>	<i>Non-resident</i>
1928	437,727	1,190
1929	505,103	4,823

No major increase in present activities can be made unless additional funds are provided, or some of our present work is curtailed. To eliminate any present undertakings would mean a step in the wrong direction, but some way must be found for us to keep in step with new thoughts and practical ideas in present day conservation movements.

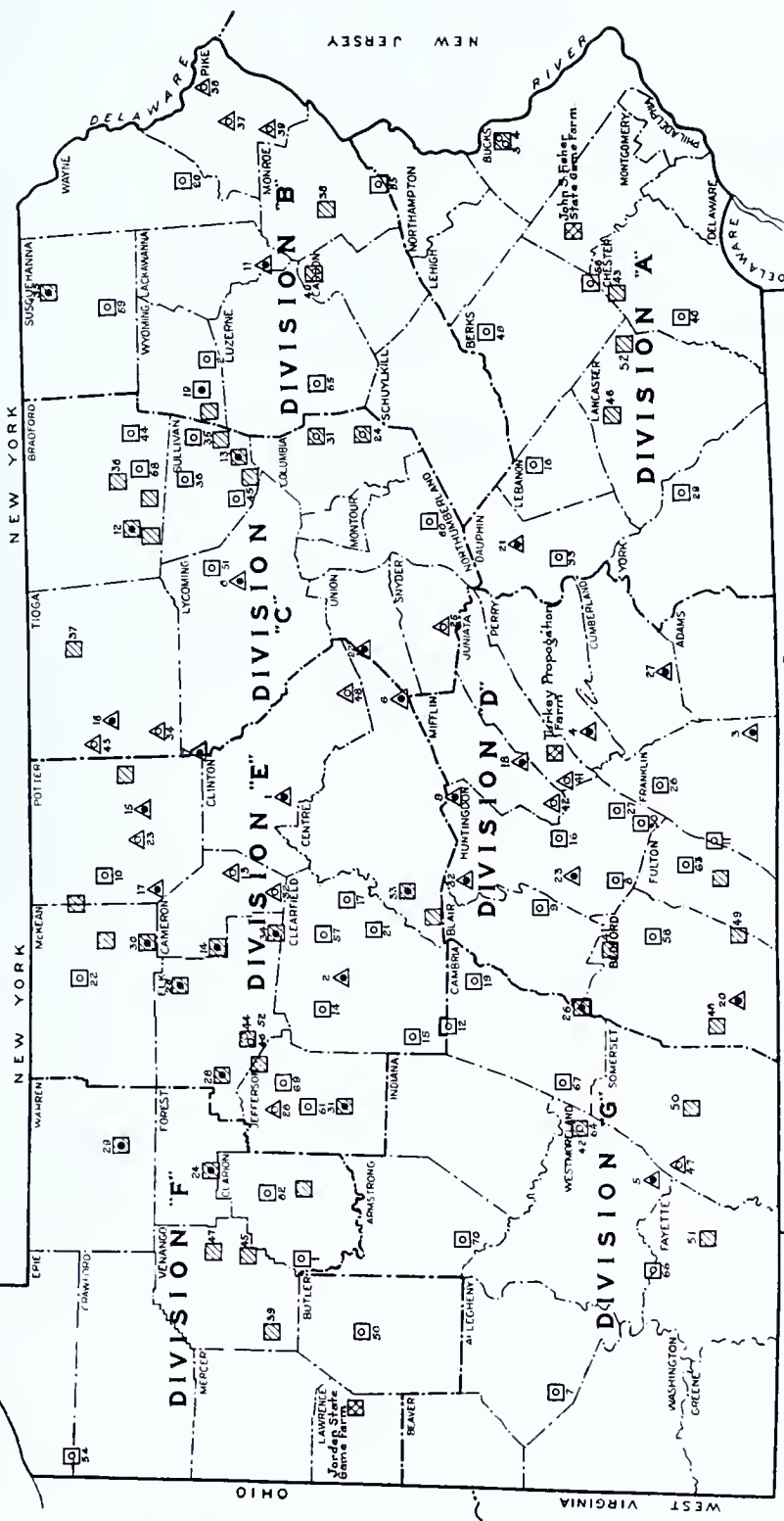
Respectively submitted,

JNO. J. SLAUTTERBACK,

Executive Secretary.

LOCATION OF STATE GAME REFUGES AND PUBLIC HUNTING GROUNDS

COMMONWEALTH OF PENNSYLVANIA
BOARD OF GAME COMMISSIONERS
BUREAU OF REFUGES AND LANDS
HARRISBURG, PA.



Note: Serial numbers of Primary Refuges are indicated above the symbol designating same; auxiliary numbers below the symbol and State Game Land numbers to the right or left of the corresponding symbol. Where primary refuges are established on State Game Lands, the same number applies to both and is placed above the symbol.

- LEGEND
- PRIMARY STATE GAME REFUGES
 - AUXILIARY STATE GAME REFUGES
 - ◻ STATE GAME LANDS PURCHASED AND UNDER CONTRACT FOR PURCHASE
 - ◻ STATE FORESTS WHEREIN A GAME REFUGE IS MAINTAINED
 - ◻ LEASED LANDS
 - ◻ STATE GAME FARMS

100%	For All Purposes	\$2,194,048.21
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28.54%	Game Protection	\$626,276.93
--------	-----------------	--------------

22.01%	Purchase of Lands	\$482,876.07
--------	-------------------	--------------

13.07%	Maintenance of Refuges	\$286,844.34
--------	------------------------	--------------

11.77%	Control of Predators	\$258,238.66
--------	----------------------	--------------

9.72%	Game Restocking	\$213,348.27
-------	-----------------	--------------

7.11%	Administration	\$155,893.85
-------	----------------	--------------

3.64%	Game Propagation	\$79,887.45
-------	------------------	-------------

1.75%	Game Feeding	\$38,315.94
-------	--------------	-------------

1.45%	Research & Information	\$31,874.28
-------	------------------------	-------------

.94%	Property Damage	\$20,492.42
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STATEMENT OF REVENUE AND DISBURSEMENTS—BOARD OF GAME COMMISSIONERS
Fiscal Year June 1, 1929 to May 31, 1930

REVENUE

Balance in State Treasury to credit of "Game Fund" June 1, 1929, -----	\$539,990.45
Net revenue from Hunters' Licenses deposited in fund during year, -----	\$1,029,343.67
Penalties, -----	82,871.50
Special Licenses, interest, etc., during year, -----	28,923.07
Total credited to fund during year, -----	1,141,138.24
Total available, -----	\$1,741,128.69

DISBURSEMENTS BY BUREAUS

	*General Office	Protection	Refuges & Lands	Predatory Animals	Research & Information	Total
Salaries of regular officers, -----	\$25,283.31	\$159,749.51	\$55,175.53	\$13,794.27	\$9,687.50	\$263,690.12
Traveling Expenses of regular officers, -----	3,024.69	90,916.95	10,551.36	2,437.62	2,116.02	109,046.64
Purchase of Game, -----	73,891.60					73,891.60
Feed for Game, -----	8,848.40	17,577.92	1,358.00	214.13	18.05	28,016.50
Expressage, Cartage, etc., (Mostly on Game), -----	14,870.62	1,037.18	913.69	99.22	.51	16,921.22
Deputy Game Protectors:						
Salaries, -----	\$24,706.75	38,808.89				38,808.89
Expenses, -----	14,192.14					
Labor (cutting fire and boundary lines, road repairs, planting trees, etc.):			17,517.75			17,517.75
Wages, -----				802.79		
Expenses, -----	21,901.08	2,527.80			43.50	25,274.48
Labor at Game Farms, feeding game & miscellaneous work, -----			236,401.71			236,401.71
Purchase of State Game Lands, (title examinations and cost of surveys included), -----	32,461.36					32,461.36
Taxes and fixed charges on lands, -----	6.30		9,596.34			9,602.64
Buildings and construction, -----	1,340.51		1,575.62			2,916.13
Repairs, (buildings, grounds, equipment-under contract), -----	3,869.12	20.20	7,861.73	78.52	56.80	11,826.37
Horse feed at Refuges, -----			1,862.08			1,862.08
Miscellaneous equipment, (tools, harness, machinery, traps, films, slides, etc.), -----	15,169.80	5,349.51	4,838.29	1,232.18	2,829.75	27,419.53
Miscellaneous supplies, (lumber, crates, cement, wire, etc.), -----	9,405.67	1,583.72	3,950.14	1,106.80	142.36	16,189.19

STATEMENT OF REVENUE AND DISBURSEMENTS—BOARD OF GAME COMMISSIONERS
Fiscal Year June 1, 1929 to May 31, 1930

Motor Equipment and Accessories (Passenger Cars), -----	2,141.25	4,571.33	1,887.22	800.00	-----	8,599.80
Motor Equipment and Accessories (Trucks, Tractors, etc.), -----	2,455.08	5,032.06	1,628.37	417.21	690.79	3,285.08
Motor Supplies, (gas, oil, tires, repairs, etc.) Passenger Cars, -----	564.77	3.17	1.50	1,873.55	-----	8,741.23
Motor Supplies, (gas, oil, tires, repairs, etc.) Trucks, Tractors, etc., -----	100.76	-----	34.00	-----	-----	2,442.99
Light, Heat, Power and water, -----	1,317.09	341.14	144.42	150.46	38.02	143.70
Insurance, Surety and Fidelity Bonds, -----	1,661.24	3.15	526.21	3.15	9.65	1,991.13
Office Equipment (Typewriters, files, desks, etc.), -----	3,379.38	-----	-----	-----	-----	2,203.40
Office Supplies (Paper, folders, carbon paper, etc.), -----	4,409.69	993.91	545.83	2,516.07	140.36	3,379.38
Postage (Office and Field), -----	908.17	5,982.76	1,004.37	50.96	89.59	8,605.86
Telephone and Telegrams (Office and Field), -----	6,139.18	-----	1,308.92	-----	-----	8,035.85
Printing and Paper (not including hunters licenses), -----	-----	-----	-----	-----	-----	7,448.10
Newspaper Advertising (closing of Counties, establishing of Refuges, changes in Game Laws, etc.), -----	1,078.08	97.61	100.45	-----	-----	1,276.14
Rentals (Auto Storage by month, etc.), -----	223.75	679.25	745.65	294.50	116.80	2,059.95
Payment of Bounties: (Wild Cats, 190; Gray Foxes, 7,917; Red Foxes, 13; Weasels, 84,370; Goshawks, 76), -----	-----	-----	-----	119,300.00	-----	119,300.00
Return of fines erroneously collected and deposited, -----	-----	135.00	-----	-----	-----	135.00
Attorney Fees, -----	-----	475.00	-----	-----	-----	475.00
Miscellaneous Fees (Architects, Lecturers, etc.), -----	255.25	108.50	34.75	73.50	85.00	557.00
Deer Proof Fence, -----	9,985.19	-----	-----	-----	-----	9,985.19
Damage by Bears, -----	2,998.75	-----	-----	-----	-----	2,998.75
Printing Hunters' Licenses, Tags and Miscellaneous Forms—(through Department of Revenue), -----	28,478.36	-----	-----	-----	-----	28,478.36
Return of license fees paid for Special Deer Licenses (through Board of Finance and Revenue), -----	178.60	-----	-----	-----	-----	178.60
Totals, -----	\$277,298.99	\$334,084.56	\$359,564.23	\$145,244.24	\$16,064.90	\$1,132,256.92
Balance available May 31, 1930, -----	-----	-----	-----	-----	-----	\$608,871.77

* Expense in connection with purchase, distribution and propagation of game included.

STATEMENT OF REVENUE AND DISBURSEMENTS—BOARD OF GAME COMMISSIONERS

Fiscal Year June 1, 1928 to May 31, 1929

REVENUE	
Balance in State Treasury to credit of "Game Fund" June 1, 1928, -----	\$571,185.91
Balance in Department's advancement account June 1, 1928, -----	3,265.69
Net revenue from Hunters' Licenses deposited in fund during year, -----	999,247.33
Penalties, -----	65,642.50
Special Licenses, Interest, etc., during year, -----	22,437.00
Total credited to fund during year, -----	1,087,320.83
Total available, -----	\$1,661,781.74

DISBURSEMENTS BY BUREAUS

	General Office	Protection	Refuges & Lands	Predatory Animals	Research & Infor- mation	Total
Salaries of regular officers, -----	\$23,662.34	\$158,957.66	\$54,666.66	\$14,350.74	\$8,198.22	\$259,835.62
Traveling Expenses of regular officers, -----	4,562.39	95,410.40	11,017.79	3,050.54	1,771.29	115,812.41
Purchase of Game, -----	102,197.86					102,197.86
Food for Game, -----	2,338.26	6,621.67	1,104.33	135.31	79.87	10,299.44
Expressage, Cartage, etc., (Mostly on Game), -----	17,939.83	1,287.00	1,088.05	17.78	4.93	20,337.59
Deputy Game Protectors:						
Salaries, -----	\$22,978.18	36,387.65				59,365.83
Expenses, -----	13,469.47					
Labor (cutting fire & boundary lines, planting trees, etc.):						
Wages, -----	\$27,696.16					
Expenses, -----	386.50					
Labor—Miscellaneous, -----	8,316.23	1,444.16				
Purchase of State Game Lands (Title Examinations included), -----			189,312.25		321.91	189,634.16
Purchase of two Game Farms, -----	24,760.53					24,760.53
Taxes and fixed charges on lands, -----			7,120.31			7,120.31
Buildings and construction, -----	1,196.53		28,875.49			29,972.02
Repairs, (buildings, roads, grounds, etc.), -----	1,151.28	16.88	9,076.99		96.95	10,362.76
Replacements and Improvements, -----	1,607.08		5,305.64			6,912.72

STATE GAME LANDS—LOCATION AND AREA
May 31, 1930

TABLE NUMBER 1

Serial Number	Location—County	Year Purchased	Area (acres)
12	Bradford 5 miles southeast of Leroy.	1920	7,492.9
Donaldson 13	Sullivan 10 miles north of Benton.	1924-25-29	18,016.4
Kelly 14	Cameron 5 miles southwest of Emporium.	1925-29	11,888.2
25	Elk 7 miles northeast of Johnsonburg.	1920	6,288.55
26	Bedford, Blair & Cambria 10 miles southeast of Portage on Bob's Creek.	1920-21-24	7,004.34
28	Elk & Forest 14 miles east of Ridgway on Spring Creek.	1921	9,142.7
Kalbfus 29	Warren 3 miles West of Clarendon on Tionesta Creek.	1920-21	8,718.51
30	McKean 2 miles south of Betula.	1923-29	11,572.03
31	Jefferson 8 miles north of Punxsutawney.	1921	3,471.39
33	Centre 2 miles south of Philipsburg.	1925	8,538.0
34	Clearfield & Elk 14 miles southeast of Medix Run.	1924	8,800.0
35	Susquehanna 3 miles east of Hallstead.	1926	6,621.85
36	Bradford 10 miles south of Towanda.	1928	3,945.5
37	Tioga 13 miles northeast of Wellsboro.	1928	2,866.92
38	Monroe 12 miles northwest of Stroudsburg near Mt. Pocono.	1928-29	4,425.63
39	Venango 10 miles southwest of Franklin.	1928-29	6,205.38
40	Carbon 5 miles northeast of White Haven.	1928	1,548.80
41	Bedford Between Woodbury and Bakers Summit.	1928	1,568.00
42	Westmoreland 2 miles east of New Florence.	1928-29	4,578.6
43	Chester & Berks 3 miles northeast of Elverson.	1928	952.0
44	Elk & Jefferson 1 mile south of Ridgway.	1929	21,291.8
45	Venango & Clarion 14 miles southeast of Franklin.	1929	2,790.5
46	Lancaster 6 miles northwest of Ephrata.	1929	1,643

STATE GAME LANDS—LOCATION AND AREA
May 31, 1930—Continued

Serial Number	Location—County	Year Purchased	Area (acres)
47	Venango 5 miles east of Oil City near Allegheny River.	1929	1,791
48	Bedford Near Madley on Wills & Buffalo Mountains.	1929	3,225.2
49	Bedford and Fulton Near Robinsonville on Rays Hill Mountain.	1929	1,508.8
50	Somerset 3 miles south of Somerset on Negro Mountain.	1929	1,634.1
51	Fayette 10 miles east of Uniontown.	1930	6,621.8
	Total -----		173,551.4

Note: Primary State Game Refuges are maintained on State Game Lands Numbers 12, 13, 14, 25, 26, 28, 29, 30 31, 33, 34, 35.

STATE GAME REFUGES AND PUBLIC HUNTING GROUNDS
LOCATION AND AREA
May 31, 1930

TABLE NUMBER 2

Refuge Name and Serial Number	Location	Year Refuge Established	Area (Acres)	
			Within the Refuge	Surrounding Public Hunting Grounds
Penrose 1	Clinton County—Sproul State Forest. 12 miles south of Renovo along the Snow-Shoe-Renovo road.	1905	2,002	*
Kennedy 2	Clearfield County—Moshannon State Forest. 10 miles northwest of Clearfield along the Clearfield-Penfield road.	1906	3,107	*
3	Franklin County—Mont Alto State Forest. Near the South Mountain Tuberculosis Sanatorium.	1906	1,989.9	*
4	Perry County—Tuscarora State Forest. 5 miles south of New Germantown.	1911	1,864	*
Phillips 5	Westmoreland County—Forbes State Forest. 10 miles south of Ligonier.	1911	1,740	*
6	Centre County—Bald Eagle State Forest. 5 miles east of Coburn along Penn's Creek.	1912	1,265.8	*
7	Potter, Clinton and Lycoming Counties—Tiadaghton State Forest. At the Pump Station along the Coudersport Pike.	1915	2,460	*
8	Lycoming County—Tiadaghton State Forest. 8 miles east of Montoursville along Loyalsoek Creek.	1915	1,785	*
9	Huntingdon County, Logan State Forest. Between Reedsville and Greenwood Furnace.	1915	2,646	*
10	Abandoned.			
11	Lackawanna County—Lackawanna State Forest. Between Wilkes-Barre and Gouldsboro.	1915	2,774	*
12	Bradford County—State Game Lands. 5 miles south of Leroy.	1915	2,106	5,386.94
Donaldson 13	Sullivan County—State Game Lands. 8 miles north of Benton.	1915	3,027	14,989.44
Kelly 14	Cameron County—State Game Lands. 8 miles southwest of Emporium.	1915	2,507	9,581.2
15	Potter County—Susquehannock State Forest. Between Austin and Cherry Springs near Hull Station.	1916	3,434	*
16	Tioga County—Tioga State Forest. Near Roosevelt Highway, 10 miles west of Wellsboro.	1916	3,970	*
17	Potter and Cameron Counties—Elk State Forest. Near Sizerville.	1916	2,802	*
18	Mifflin and Juniata Counties—Rothrock State Forest. 11 miles south of Newton Hamilton.	1916	2,900	*

**PRIMARY
STATE GAME REFUGES AND PUBLIC HUNTING GROUNDS
LOCATION AND AREA
May 31, 1930—Continued**

Refuge Name and Serial Number	Location	Year Refuge Estab- lished	Area (Acres)	
			Within the Refuge	Surround- ing Public Hunting Grounds
19	Wyoming County—On lands leased. 6 miles north of Noxen.	1917	2,100	4,438.6
20	Bedford County—Buchanan State Forest. 19 miles south of Bedford near Rainsburg.	1917	2,196	*
Worden 21	Dauphin County—Weiser State Forest. 6 miles southwest of Lykens.	1918	1,849	*
22	Union and Centre Counties—Bald Eagle State Forest. 8 miles northwest of Mifflinburg.	1918	2,130	*
23	Huntingdon County—Rothrock State Forest. 6 miles east of Marklesburg at Paradise Fur- nace.	1918	1,896	*
24	Forest and Clarion Counties—On lands leased but now under contract for purchase. 12 miles east of Tionesta.	1918	1,560	5,017.3
25	Elk County—State Game Lands. 7 miles northeast of Johnsonburg.	1920	2,096	4,192.55
26	Bedford, Blair and Cambria Counties—State Game Lands. 10 miles southeast of Portage.	1921	1,727	5,277.34
27	Cumberland County—Miehau State Forest. Near Pine Grove Furnace.	1920	1,409	*
28	Elk and Forest Counties—State Game Lands. 14 miles east of Ridgway near Hallton.	1920	2,622	6,520.7
Kalbfus 29	Warren County—State Game Lands. 3 miles west of Clarendon.	1921	2,369	6,349.51
30	McKean County—State Game Lands. Between Smethport and Emporium near Betula.	1923	2,874	8,698.03
31	Jefferson County—State Game Lands. 8 miles north of Punxsutawney near Anita.	1923	655	2,816.39‡
32	Huntingdon County—Logan State Forest. Near Petersburg.	1921	1,393	*
33	Centre County—State Game Lands. 2 miles south of Philipsburg.	1925	2,904	5,634
34	Clearfield and Elk Counties—State Game Lands. 14 miles southeast of Medix Run.	1925	2,068	6,732
35	Susquehanna County—State Game Lands. 3 miles east of Hallstead along the north branch of the Susquehanna River.	1926	1,500	5,121.35
Total -----			75,727.7	90,555.27

NOTES: Where a primary refuge is located on State Game Lands the same serial number applies to both.

* Thousands of acres of State Forest lands surround the refuge.

‡ Additional adjoining lands are now under contract for purchase.

**AUXILIARY
STATE GAME REFUGES AND PUBLIC HUNTING GROUNDS
LOCATION AND AREA
May 31, 1930**

TABLE NUMBER 3

Refuge Serial Number	County in Which Located	Lessor	Year Refuge Estab- lished	Area (Acres)	
				Within the Refuge	Public Hunting Grounds
1	Clarion	J. C. Campbell and W. Logue	1918	700	None
2	Wyoming	Arthur L. Stull	1918	800	None
3	Bucks†	Daniel Trouts	1919	500	None
4	Bucks†	J. O. McEntee	1919	600	None
5	Abandoned				
6	Abandoned				
7	Allegheny	A. M. Bell	1920	400	284
8	Huntingdon	Rockhill Coal & Iron Company	1921	623	677
9	Blair	J. W. Gromiller and J. L. Hartman	1923	500	598
10	Potter	Gray Chemical Company	1924	1,900	4,797
11	Franklin-Fulton	S. P. R. Y. & M. Co., and Buchanan State Forest	1924	1,204	*
12	Cambria- Clearfield	Clearfield Bituminous Coal Company	1925	200	4,120
13	Cameron	Sinnemahoning State Forest	1924	2,272	*
14	Clearfield	Trustees of the Baker Run Reserve	1925	800	4,200
15	Clearfield	Elizabeth G. and Hugh M. Irvin	1925	274	685
16	Huntingdon	Harbison-Walker Refractories Co.	1925	467	1,533
17	Clearfield	Robert Hubler	1925	582	272
18	Lebanon	Samuel Strause	1925	315	2,885
19	Cambria	J. H. Hommer Estate	1925	330	670
20	Wayne	Seranton Council Boy Scouts	1925	440	None
21	Clearfield	Harbison-Walker Refractories Co.	1925	380	1,504
22	MeKean	Smethport Water Company	1925	400	1,519
23	Potter	Susquehannock State Forest	1925	425	*
24	Columbia†	William P. Zehner and Henry Hummel	1925	447	1,903
25	Snyder	Bald Eagle State Forest	1925	307	*
26	Franklin	A. C. Book	1925	471	1,163
27	Huntingdon	Ralph D. Harper	1925	100	277
28	Jefferson	Kittanning State Forest	1925	221	*
29	York	Wilton, Hilt, Gipe et al.	1925	176	1,094
30	Huntingdon	Harbison-Walker et al.	1925	527	848

**AUXILIARY
STATE GAME REFUGES AND PUBLIC HUNTING GROUNDS
LOCATION AND AREA
May 31, 1930—Continued**

Refuge Serial Number	County in Which Located	Lessor	Year Refuge Estab- lished	Area (Aeres)	
				Within the Refuge	Public Hunting Grounds
31	Columbia†	O. D. McHenry and A. R. Appleman	1925	261	1,631
32	Cameron	Sinnemahoning State Forest	1925	653	*
33	Dauphin	H. M. Bayard Heirs	1925	350	2,650
34	Tioga	Tioga State Forest	1926	266	*
35	Sullivan	Otto Behr and Anna Huek	1925	393	367
36	Sullivan	Mulnix, Rogers, Corson et al.	1925	123	379
37	Pike	Delaware State Forest	1926	330	*
38	Pike	Delaware State Forest	1927	130	*
39	Pike	Delaware State Forest	1925	210	*
40	Chester	Thomas Young et al.	1925	100	346
41	Juniata	Rothrock State Forest	1926	145	*
42	Mifflin	Rothrock State Forest	1925	156	*
43	Tioga	Tioga State Forest	1926	211	*
44	Bradford	M. H. & G. H. Welles Lumber Co. et al.	1926	401	365
45	Sullivan	Eaglesmere Light Company	1926	250	1,318
46	Flk	State Game Lands No. 44. Originally leased in part from Ridgway Light and Heat Com- pany	1925	154	18,437.8
47	Somerset	Forbes State Forest	1925	141	*
48	Clinton	Bald Eagle State Forest	1925	545	*
49	Berks	Borough of Hamburg	1926	315	1,965
50	Butler	Blain, Coulter et al.	1926	211	309
51	Lyeoming	G. E. Rohrbach and Henry Masters	1926	129	695
52	Elk	State Game Lands No. 44. Originally leased in part from Ridgway Light and Heat Com- pany	1926	166	2,634
53	Abandoned				
54	Erie-Crawford	H. C. Johnson	1926	296	758
55	Monroe- Northampton	Blue Mountain Consolidated Water Co.	1927	152	2,848
56	Berks-Chester	John T. Dyer Quarry Company	1926	451	1,282
57	Clearfield	Paul, Rebecca and Alta Smith	1926	111	450
58	Bedford	Hoover, Koontz, Henry et al.	1927	456	957
59	Susquehanna	J. B. and Robert Atkinson	1926	100	130

**AUXILIARY
STATE GAME REFUGES AND PUBLIC HUNTING GROUNDS
LOCATION AND AREA
May 31, 1930—Continued**

Refuge Serial Number	County in Which Located	Lessor	Year Refuge Estab- lished	Area (Aeres)	
				Within the Refuge	Public Hunting Grounds
60	Northumberland	National Bank of Shamokin	1927	251	1,549
61	Jefferson	Kane Brick and Tile Company	1926	100	1,000
62	Clarion	Anna J. Keatley	1926	510	1,516
63	Fulton	Martz, Lear et al.	1926	110	343
64	Westmoreland	State Game Lands No. 42. Originally leased from Tillie C. Werder	1926	765	3,813.6
65	Luzerne	Creveling, Markle and Boyd	1926	290	312
66	Westmoreland- Fayette	Jacob Creek Oil Company and J. P. Brennen Forest	1926	238	1,909
67	Cambria	Bethlehem Steel Products Com- pany	1926	343	1,376
68	Bradford	R. S. Wilcox	1927	166	552
69	Jefferson	C. M. Carrier	1927	227	593
70	Armstrong	Stivenson, Wonders et al.	1928	132	671
		TOTALS		26,699	80,185.4

* Thousands of aeres of State Forest lands surrounding the refuge

‡ Lands now under contract for purchase

FIXED CHARGES PAID ON STATE GAME LANDS IN LIEU OF TAXES

Two Fiscal Years Ending May 31, 1929 and 1930

TABLE NUMBER 4

County	Township	Amounts and for What Purposes Paid					
		Fiscal Year Ending May 31, 1929			Fiscal Year Ending May 31, 1930		
		County	School	Roads	County	School	Roads
Bedford -----	Union -----	\$35.95	\$71.89	\$71.89	\$35.95	\$71.89	\$71.89
Bedford -----	Woodbury -----				3.50	7.00	7.00
Bedford -----	Bloomfield -----				12.18	24.36	24.36
Berks -----	Robeson -----				1.05	2.10	2.10
Berks -----	Union -----				1.12	2.23	2.23
Blair -----	Greenfield -----	9.59	19.18	19.18	9.59	19.18	19.18
Bradford -----	Barclay -----	8.21	16.41	16.41	8.21	16.41	16.41
Bradford -----	Leroy -----	66.72	133.45	133.45	66.72	133.45	133.45
Bradford -----	Monroe -----	36.35	72.71	72.71	36.35	72.71	72.71
Bradford -----	Overton -----	3.10	6.20	6.20	3.10	6.20	6.20
Cambria -----	Summerhill -----	23.21	46.41	46.41	23.21	46.42	46.42
Cameron -----	Shippen -----	91.24	182.48	182.48	91.60	183.20	183.20
Carbon -----	Kidder -----				15.49	30.98	30.98
Centre -----	Rush -----	80.50	161.00	161.00	80.88	161.78	161.78
Centre -----	Taylor -----	1.71	3.42	3.42	1.71	3.42	3.42
Centre -----	Worth -----	2.78	5.56	5.56	2.78	5.56	5.56
Chester -----	Warwick -----				7.35	14.70	14.70
Clearfield -----	Covington -----	11.00	22.00	22.00	11.00	22.00	22.00
Clearfield -----	Girard -----	39.56	79.12	79.12	39.56	79.12	79.12
Clarion -----	Ashland -----				4.94	9.88	9.88
Elk -----	Benezette -----	37.44	74.88	74.88	37.44	74.88	74.88
Elk -----	Highland -----	50.69	101.38	101.38	50.69	101.38	101.38
Elk -----	Horton -----				42.71	85.42	85.42
Elk -----	Jones -----	62.88	125.77	125.77	62.88	125.77	125.77
Elk -----	Millstone -----	11.93	23.86	23.86	11.93	23.86	23.86
Elk -----	Ridgway -----				44.52	89.04	89.04
Elk -----	Spring Creek -----	19.11	38.22	38.22	73.09	146.19	146.19
Forest -----	Jenks -----	9.70	19.40	19.40	9.70	19.40	19.40
Jefferson -----	McCalmont -----	13.68	27.37	27.37	13.68	27.37	27.37
Jefferson -----	Oliver -----	21.03	42.06	42.06	21.03	42.06	42.06
Jefferson -----	Snyder -----				9.06	18.12	18.12
Lawrence -----	Scott -----				1.68	3.37	3.37
McKean -----	Norwieh -----	50.46	100.92	100.92	115.72	231.44	231.44
Monroe -----	Chestnut Hill -----	3.16	6.33	6.33	3.16	6.33	6.33
Monroe -----	Tunkhannock -----	.62	1.24	1.24	.62	1.24	1.24
Monroe -----	Jackson -----	18.05	36.10	36.10	18.05	36.10	36.10
Monroe -----	Pocono -----	9.05	18.10	18.10	9.05	18.10	18.10
Montgomery -----	Limeriek -----				1.69	3.39	3.39
Sullivan -----	Colley -----	1.20	2.40	2.40	1.20	2.40	2.40
Sullivan -----	Davidson -----	124.02	248.05	248.05	124.02	248.05	248.05
Susquehanna -----	Great Bend -----	63.97	127.94	127.94	63.97	127.95	127.95
Susquehanna -----	New Milford -----	.74	1.49	1.49	.74	1.49	1.49
Susquehanna -----	Oakland -----	1.50	2.99	2.99	1.50	2.99	2.99
Tioga -----	Middlebury -----	12.30	24.60	24.60	12.30	24.61	24.61
Tioga -----	Richmond -----	8.89	17.79	17.79	8.89	17.79	17.79
Tioga -----	Tioga -----	7.47	14.94	14.94	7.47	14.94	14.94
Venango -----	Mineral -----				21.88	43.75	43.75
Venango -----	Irwin -----				4.02	8.04	8.04
Venango -----	Vietory -----				5.23	10.46	10.46
Venango -----	Cranberry -----				10.52	21.05	21.05
Venango -----	Pine Grove -----				.38	.76	.76
Venango -----	Rockland -----				7.71	15.42	15.42
Warren -----	Cherry Grove -----	33.27	66.55	66.55	33.27	66.55	66.55
Warren -----	Pleasant -----	7.00	14.00	14.00	7.00	14.00	14.00
Warren -----	Watson -----	46.91	93.82	93.82	46.91	93.82	93.82
Westmoreland -----	St. Clair -----				44.74	89.47	89.47
	Totals -----	\$1,024.99	\$2,050.03	\$2,050.03	\$1,384.74	\$2,769.59	\$2,769.59

Total for year ending May 31, 1929 \$5,125.05 Total for year ending May 31, 1930 \$6,923.92

**DEER-PROOF FENCING FURNISHED
COOPERATION WITH INDIVIDUALS WHOSE CROPS WERE BEING DAMAGED BY DEER
Fiscal Year June 1, 1928 to May 31, 1929**

TABLE NUMBER 5

To Whom Furnished	Location		Fence to Protect	Number of Rods Fencing Furnished	Cost To Game Commission
	County	Township			
Herbert J. Stover -----	Centre -----	Haines -----	Farm -----	276 -----	\$415.97 -----
Yost L. Yoder -----	Mifflin -----	Brown -----	Truck Patch -----	140 -----	213.49 -----
John L. Yoder -----	Berks -----	Upper Bern -----	Orchard, Truck Patch -----	182 -----	276.25 -----
Harry G. Clarke -----	Clearfield -----	Lawrence -----	Farm & Orchard -----	230 -----	338.00 -----
Thomas G. Hager -----	Fayette -----	Wharton -----	Farm -----	252 -----	348.73 -----
E. T. Hearn -----	Mifflin -----	Brown -----	Farm & Orchard -----	280 -----	421.87 -----
L. C. Jones -----	Clinton -----	Gallagher -----	Farm & Truck Patch -----	651 -----	939.42 -----
Myron C. Yocum -----	Columbia -----	Roaring Creek -----	Orchard -----	89 -----	137.27 -----
Raymond M. Wood -----	Fayette -----	Wharton -----	Orchard & Truck Patch -----	124 -----	76.49 -----
H. C. Hassinger -----	Snyder -----	Beaver -----	Orchard -----	205 -----	309.72 -----
Walter S. Gragle -----	Luzerne -----	Conyngham -----	Orchard & Truck Patch -----	97 -----	148.89 -----
Albert W. Johnson -----	Union -----	Lewis -----	Farm -----	525 -----	788.38 -----
				3,051 -----	\$4,509.48 -----

COOPERATION WITH INDIVIDUALS WHOSE CROPS WERE BEING DAMAGED BY DEER
DEER-PROOF FENCING FURNISHED
Fiscal Year June 1, 1929 to May 31, 1930

TABLE NUMBER 6

To Whom Furnished	Location		Fence to Protect	Number of Rods Fencing Furnished	Cost To Game Commission
	County	Township			
Ida R. Williams	Centre	Worth	Orchard & Truck Patch	290	\$414.39
Harry S. Watson	Huntingdon	West	Orchard	364	451.60
H. A. Laughman	Cumberland	Dickinson	Truck Patch	256	368.60
A. T. Blakeslee	Monroe	Tobyhanna	Orchard & Truck Patch	395	560.16
Samuel Vennie	Pike	Blooming Grove	Orchard & Truck Patch	240	340.53
Mary M. Wolfe	Union	Hartley	Orchard	180	255.98
Fisher and Mitterling	Snyder	Perry	Orchard	370	521.27
Lechon Orme	Westmoreland	Ligonier	Orchard	215	297.71
George W. Drake	Lycoming	McHerry	Farm	240	337.61
E. E. Ellenberger	Huntingdon	Franklin	Farm	535	715.64
Charles F. Howell	Pike	Blooming Grove	Farm	342	482.85
Decatur LeDane	Cumberland	Penn	Orchard	260	367.48
Bingham Brothers	Franklin	St. Thomas	Orchard	625	870.00
Elmer Warner	Carbon	Weatherly	Orchard	133	190.23
Whitmer-Steel Company	Union	White Deer	Farm and Orchard	716	979.44
Buffalo Valley Fruit Farms	Union	Lewis	Orchard	900	1,218.81
J. S. Oliver	Huntingdon	Franklin	Farm	250	348.73
W. M. Vaughn	Mifflin	Union	Truck Patch	165	241.24
Howard C. Eck	Lycoming	Limestone	Orchard	180	254.57
J. M. Frankenberger	Clinton	Greene	Orchard	400	561.02
Frank N. Miller	Franklin	Washington	Orchard	145	206.53
				7,201	\$9,985.19

SUMMARY

DEER-PROOF FENCING FURNISHED COOPERATION WITH INDIVIDUALS WHOSE CROPS WERE BEING DAMAGED BY DEER

1923 to June 1, 1930

TABLE NUMBER 7

Year	Number Rods Fencing Furnished	Cost to Game Commission
June 1, 1923—May 31, 1925	1,087	\$1,562.55
June 1, 1925—May 31, 1926	6,674	9,792.42
June 1, 1926—May 31, 1927	5,971	8,513.35
June 1, 1927—May 31, 1928	4,683	6,863.67
June 1, 1928—May 31, 1929	3,051	4,509.48
June 1, 1929—May 31, 1930	7,201	9,985.19
Total	28,667	\$41,226.66

